I: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

that amber is gathered here, near the *Penſchinſka* ſea, upon the river *Tegbil*, and farther north. 135

CHAP. V.

Of TREES *and* PLANTS.

THE moſt uſeful wood is the larch *, and the white poplar †, which ſerves for building their houſes and forts; and they are fit, not only for ſuch boats as the inhabitants uſe, but even for the building of ſhips. The larch-tree, indeed, only grows upon the river *Kamtſchatka*, and ſuch other rivers as fall into it: in other places they make uſe of the white poplar. The pine-tree ‖ and the black poplar ‡ are no where to be found upon the *Kamtſchatka*; and the pitch-tree ** only in one place, and there in ſmall quantities. Although there be many birch-trees ††, yet they make little uſe of them, unleſs in their ſledges, having none near their houſes but what are crooked and uſeleſs; and it is very troubleſome to bring the better ſort from the diſtance at which it grows. 137 313

They make great uſe of the birch bark, which they ſtrip from the trees while yet green; and cutting it in ſmall pieces, like vermicelli, eat it with dried caviar. In the winter, whenever you enter any of their villages, you find the women employed in hacking this green bark with their bone or ſtone axes. They alſo ferment this bark with the juice or ſap of the birch, which makes an agreeable drink. The birches of 314 222 252 273

* Larix. ‖ Pinus. ** Picea.
† Populus alba. ‡ Populus nigra. †† Betula.

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

rows upon the ſtalk; the lower row having three leaves, and the upper four, placed croſsways: the form of the leaves is oval. Sometimes above the ſecond row one leaf grows juſt under the flower. Upon the uppermoſt part of the ſtalk grows one dark cherry-coloured flower, rarely two, ſomething leſs than that of the common lilly; and this is divided into ſix equal parts. The pointal in the center of the flower is triangular, at the top flat, and in three different cells contains flat reddiſh ſeeds. Round the pointal are ſix white ſtamina with yellow heads. Its root, which is properly the ſaranne, is about the bigneſs of a root of garlick, made up of many little cloves, whence it acquires a round form. It bloſſoms in *June*, at which time one can ſee no other flower over the whole fields.

The natives of *Kamtſchatka*, and the wives of the *Ruſſian* Coſſacks, dig up the roots in the harveſt, or take them out of the neſts of the field-n[illegible]y† them in the ſun, and ſell them for five or ſix rubles the pood. The ſaranne half boiled, and beat up with brambleberries, cranberries, or ſuch other of this kind, makes one of the moſt agreeable confections, being of a ſharp ſweetneſs; and if one had enough for every day's uſe, the want of bread would be tolerably well ſupplied. Mr. *Steller* reckons five ſpecies of this plant: 1ſt. the kimtchiga, which grows near *Tegbil* and *Harioufkovoy*, in appearance like a large ſugar-pea, and if boiled taſtes much the ſame; but neither he nor I ever ſaw this plant in bloſſom: 2dly, the round ſaranne, which I have deſcribed above: 3dly, ovſenka *, which grows every where in *Siberia*, being roots of red lillies, whoſe flowers are all turned up in curls; the bulb is compoſed of an infinite number of ſmall cloves: 4thly, titichpa,

* Lilium radice tunicata, foliis ſparſis, floribus reflexis, corollis revolutis. GMEL. flor. Sib.

† Defect in Original. Sentence probably reads: "field-mice to dry?

which

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

which grows upon the Great River; but neither he nor I ever saw this in the flower: 5thly, matiſta ſladka trava *, or the ſweet plant, is as uſeful in their oeconomy as the ſaranne; for the *Kamtſchadales* uſe this not only as a confection in tarts and broths, but in all their ſuperſtitious ceremonies this is abſolutely neceſſary. The *Ruſſians* were no ſooner ſettled there, than they found that brandy was to be diſtilled from it; and at preſent this is the only brandy that is publickly ſold. The root of this herb is without yellowiſh, within, white; and of a bitter, ſpicy taſte. The ſtem is fleſhy, of three or four joints, and about a man's height. Its flower is a reddiſh green, with ſhort white hairs, longeſt near the root. The leaves upon the ſtem neareſt the root are five or ſix, and ſometimes even ten: they grow upon thick, round, fleſhy, green, rough ſtalks, marked with little red ſpots. Upon the main ſtem, at every joint, ariſes one ſuch leaf, but without a ſtalk. The flowers are ſmall and white, like fennel, or other herbs of that ſort; and conſiſt of five leaves, of which the innermoſt are largeſt, and the outward ſmalleſt. It has two ovaria upon every flower, upon ſhort ſmall necks; and round them are five white ſtamina with green points, which riſe higher than the flower. The flowers, taken all together, reſemble a plate; while the ſtalks which ſupport the umbella are longeſt without, and in the middle ſhorteſt: ſtalks ariſe from every joint, upon which are flowers.

This plant abounds every where in *Kamtſchatka*, and the inhabitants gather and prepare it in this manner: they cut off the ſtalks of the leaves which grow neareſt the root, and with a ſhell

* Sphondylium foliolis pinnatifidis. Linn. Cliff.

ſcrape

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

222 ſcrape off the ſkin; and then bind up ten ſtalks together.
252 When it begins to ſmell a little, then they put it in a bag to ſweeten; where it yields a ſweet duſt, which perhaps ſweats out from the pith of the plant. This herb-ſugar, as they call it, has ſomething the taſte of liquorice, and is not very pleaſant. A pood of the plant does not afford above a quarter of a pound of this duſt.

137 The women, when they gather this,[1] muſt wear gloves; for the
222 juice is ſo ſharp or cauſtic, than whenever it falls upon the fleſh it raiſes ſwellings and bliſters. For this reaſon, when in the ſpring the *Ruſſians* eat it freſh, they only bite it with their teeth, taking care not to touch it with their lips. I have ſeen inſtances of ſome that were unacquainted with this, who raſhly chewed it as they would do any other herb; upon which, not only their lips, but their chin, noſe, and cheeks, and alſo wherever the juice of this plant had touched, was immediately ſwelled up and full of bliſters; and although theſe burſt, yet the ſwelling continued for a whole week.

273 The manner of diſtilling ſpirits from it is as follows:---
536 They lay ſeveral bundles of this plant in a ſmall veſſel, upon which they pour hot water; and to make it ferment, they put in ſome berries of honey-ſuckle or cranberries, and binding the veſſel cloſe up ſet it in a warm place, where they leave it until the liquor ceaſes to make a noiſe; for during the time of fermentation, it cracks and bounces ſo much as to make the veſſel ſhake. In the ſame manner they prepare more wort in a large veſſel, and add to this, which now generally ferments in 24 hours, as above. They throw both the fermented herbs and liquor into the kettle, and cover it cloſe with a wooden cover; and inſtead of a pipe they take the barrel of a gun. The firſt running is as ſtrong as brandy; which, if they diſtil a ſecond time, produces a ſpirit ſo ſtrong that it conſumes even iron. But it is

1. [the sweet herb, sphondylium foliolis pinnatifidis Linn. Cliff.]

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

boil it with their fiſh, and uſe the leaves as tea; but the greateſt uſe is made of its pith, which, after having ſplit the ſtalks, they ſcrape out with ſhells, and, tied up in bundles, dry it in the ſun. It is then very pleaſant, and in taſte reſembles dried *Perſian* cucumbers. The *Kamtſchadales* uſe it in ſeveral diſhes, and ſerve it up green as a deſert. The kipri boiled gives a thick ſweet wort, that makes the beſt quaſſe * imaginable: it alſo affords them a very ſtrong vinegar, if to ſix pounds of the kipri they add a pound of the ſweet herb of ſphondilium, and ferment it in the uſual way: they get a great deal more brandy, when they uſe the infuſion of the kipri, inſtead of water, to prepare the ſweet herb for diſtillation.

They cure the navels of their children with this herb, chewing it, and laying it upon the part. They grind the roots and ſtalks, and uſe them inſtead of green tea, to which the flavour has ſome reſemblance. The ſame uſe the *Kuriles* make of another ſhrub †, which has flowers like the ſtrawberry, only yellow, and produces, no berries. This is called *Kurilſkoy* tea, and has great virtue in fluxes and gripes.

The wild garlick ‖ is not only uſeful in the kitchen, but alſo in medicine. Both the *Ruſſians* and *Kamtſchadales* gather great quantities, which they cut and dry in the ſun for their winter proviſion; at which time boiling it in water they ferment it a little, and uſe it as an herb ſoup, which they call *ſhami*. They eſteem the wild garlick ſo efficacious a remedy againſt the ſcurvy, that they think themſelves in no danger ſo ſoon as it begins to

* Quaſſe is a *Ruſſian* drink made of rye-malt, and flower, and very little fermented. Sometimes they add mint to it, and it makes no diſagreeable drink.

† Potentilla caule fruticoſo. LINN. Cliff.

‖ Allium foliis radicalibus petiolatis floribus umbellatis. GMEL. flor. Sib. tom. 1. p. 49.

ſhew

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

137 leaves of this plant are very aſtringent: both the *Ruſſians* and
252 *Kamtſchadales* eat it in the ſpring. They preſerve the root[1] for
262 winter, which they ſtamp and boil for a gruel. It has ſome reſemblance in taſte to the Piſtacho nut.

The morkovai pouſhki, or carrot bunches, are ſo called becauſe they are like carrots in their leaf as well as in taſte. They likewiſe eat this green in the ſpring, but they oftener ſour it like ſour crout, or make a liquor with it.

137 The kotkonia * grows upon the banks of the rivers of *Kamtſchatka* in great plenty. Its root is about the thickneſs of one's finger, bitter and aſtringent, black without, and white within. Sometimes five, but always more than two ſtalks ariſe from this root, about ten inches high, of the thickneſs of a gooſe-quill, and of a yellowiſh-green colour. At the top are three oval leaves ſpread like a ſtar, from the middle of which riſes a ſtalk half an inch high, which ſupports the flower. The cup of the flower conſiſts of three oblong green leaves, and the flower itſelf of as many white ones. In the middle of the flower is the piſtil, of ſix ſides, a yellow colour, with a red top: it contains three cells, and is ſurrounded with ſix equal yellow-coloured ſtamina; the anthera is alſo yellow. When the piſtil is ripe it is as big as a walnut, is ſoft, fleſhy, and of an agreeable taſte, like a pleaſant apple. It flowers about
262 the middle of *May*. The *Kamtſchadales* eat the root of this plant both freſh and dried, with caviar; but the fruit muſt be eaten as ſoon as gathered, for it is ſo delicate that it ſpoils if it be kept one night.

137 The ikoume ‡, or biſtort, grows in plenty both on the hills and
262 in the vallies. The *Kamtſchadales* eat it freſh or dried, and

* Tradeſcantia fructu molli eduli.

‡ Biſtorta foliis ovatis oblongis acuminatis. LINN. Cliff.

1. [Shelmina, Umaria fructibus hiſpidis. pounded Steller]

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

were black, and others white; but none of them came ſo near the veſſel as to be exactly obſerved. 136

The * kaiover, or kaior, a bird of this ſpecies, is black, with its bill and feet red; builds its neſt, which is very curious, upon high rocks in the ſea, and whiſtles very loud, for which reaſon the Coſſacks call it ivoſhik, or poſt-boy. I never ſaw this bird.

The fowl † urile, of which there is great plenty in *Kamtſchatka*, called, by writers, ſea ravens, is about the bigneſs of a common gooſe, with a long neck and ſmall head; the feathers upon the whole body are of a bluiſh black, except upon its thighs, where they are white and in tufts; there are alſo ſome long white feathers like hairs, here and there upon its neck; it has a red membrane or ſkin round the eyes, a ſtrait bill, black above and reddiſh below; and its feet are black and webbed: when it ſwims it holds up its head, but flying, it ſtretches it out like a crane; it flies ſwift, but riſes heavily; and feeds upon fiſh, which it ſwallows whole: in the night time, theſe fowls ſtand in rows upon the edges of the cliffs, from which in their ſleep they frequently fall into the water; where they are caught by the ſtone foxes, who watch for them; they breed in the month of *July*; their eggs are green, about the bigneſs of a hen's egg, and being boiled thicken a little, but are ill taſted; however the *Kamtſchadales* climb the higheſt rocks in ſearch of them, at the hazard of their lives. They catch them with nets, and in the evening with nooſes faſtened to a long pole; and theſe creatures are ſo void of apprehenſion, that, though they ſee the next fowl to themſelves taken away, they will ſit ſtill and receive the nooſe, 'till they are all taken off the cliff; their fleſh is hard and ſinewy; but the natives prepare it in 136 222 223 252 262

* Columba Groënlandica Batavorum. STELL.

† Corvus aquaticus maximus criſtatus periophtalmiis cinnabarinis, roſtro candidis. STELL.

much.

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

252 ſuch a manner that, as victuals are there, it is not bad; they
262 roaſt it in holes dug in the earth, without plucking off the feathers, or taking out the entrails, and when roaſted, they ſkin and eat it.

825 The natives ſay that theſe birds[1] have no tongue; but this is not true, for they cry in the mornings and evenings: Mr. *Steller* compares their noiſe to the ſound of a trumpet.

136 CLASS II. *Of thoſe Birds which haunt for the moſt part about*
223 *the freſh Water.*

The firſt of this claſs is the ſwan, which is ſo common in *Kamtſchatka*, both in ſummer and winter, that the pooreſt perſon can have no entertainment without a ſwan. When they are moulting they hunt them with dogs, and kill them with clubs: in the winter they catch them in thoſe rivers that do not freeze.

136 Here are ſeven kinds of geeſe, which are diſtinguiſhed thus: large grey geeſe, gumenniki, ſhort necks, grey and ſpeckled, white necks, ſmall white geeſe, and foreign. They all come here in the month of *May*, and depart in the month of *October*, as Mr. *Steller* ſays; who likewiſe writes, that they come from *America*, and that he himſelf ſaw them paſs *Bering*'s iſland in great flocks, flying eaſt in the harveſt and weſt in the ſpring. In *Kamtſchatka* are principally found the large grey geeſe, the gumenniki, and the grey and ſpeckled; the ſmall white gooſe is hardly ever found here. Again, in the North Sea, about *Kolimi* and other rivers, are vaſt numbers of them; and the beſt down
223 is brought to *Jakutſki* from theſe places. They catch them at the time they caſt their feathers, in the following manner:—They build huts with two doors, near thoſe places where they moſt commonly ſit at night. The fowler putting a white ſhirt on, above his cloaths, ſteals as near the flock as he can; and ſhewing himſelf

1 [Urile Corvus aquaticus maximus Cristatus periophtalmiis Cinnabarinis, postea candidis. Stell.]

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

CHAP. V.

Of their HOUSHOLD FURNITURE, *and other neceſſary Utenſils.*

ALL the *Kamtſchatka* houſhold furniture conſiſts in diſhes, bowls, troughs, and cans made of birch bark. As theſe people have not the uſe of metals, we think it is proper to explain, how without the uſe of inſtruments of iron, they are able to perform their houſhold work, ſuch as building, ſawing, making of fire, dreſſing their victuals; being all the while ſo ignorant that they can ſcarcely count ten. How powerfully does neceſſity work upon the moſt inſenſible minds!

Before the arrival of the *Ruſſians* the *Kamtſchadales* uſed ſtones and bones inſtead of metals, out of which they made hatchets, ſpears, arrows, needles, and lances. Their hatchets were made of the bones of whales and rein-deer, and ſometimes of agate or flint ſtones. They were ſhaped in form of a wedge, and faſtened to crooked handles. With theſe they hollowed out their canoes, bowls, and troughs; but with ſo much expence of trouble and time, that a canoe would be three years in making, and a large bowl one year. For this reaſon, a large canoe or trough was in as great eſteem among them as a veſſel of the moſt precious metal and fineſt workmanſhip is with us; and the village which was in poſſeſſion of ſuch valued themſelves extremely upon it, eſpecially if they were maſters of a bowl which would ſerve for more than one gueſt. Theſe bowls they dreſs their victuals in, and heat their broth by throwing red-hot ſtones into it.

Their knives were made of a greeniſh mountain chryſtal, ſharp-pointed, and ſhaped like a lancet, which was ſtuck into a

l: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

CHAP. VIII.

Of their DIET *and* LIQUORS, *together with their Method of* COOKING.

HAVING already mentioned that the food of the *Kamtſchadales* conſiſts in roots, fiſh, and ſea animals, which are all deſcribed in the ſecond part of this book, we ſhall now relate their method of dreſſing them. And firſt, we will begin with the fiſh, which they uſe inſtead of bread. The principal food, called *yokola*, is prepared from every ſort of fiſh, and ſerves them for houſhold bread. They divide their fiſh into ſix parts; the ſides and tail are hung up to dry; the back and thinner part of the belly are prepared apart, and generally dried over the fire; the head is laid to ſour in pits, and then they eat it like ſalt fiſh, and eſteem it much, though the ſtink is ſuch that a ſtranger cannot bear it; the ribs and the fleſh which remain upon them they hang up and dry, and afterwards pound them for uſe; the larger bones they likewiſe dry for food for their dogs: in this manner all theſe different people prepare the *yokola*, and they eat it for the moſt part dry.

Their ſecond favourite food is caviar, or the roes of fiſh, which they prepare in three different ways: they dry the roe whole in the air, or take it out of the ſkin which envelopes it, and, ſpreading it upon a bed of graſs, dry it before the fire; or laſtly, make rolls of it with the leaves of graſs, which they alſo dry. They never take a journey or go a hunting without dry caviar; and if a *Kamtſchadale* has a pound of this, he can ſubſiſt without any other proviſion a great while; for every birch and alder tree furniſhes him with bark, which, with his

262 dried caviar, makes him an agreeable meal; but they cannot eat either ſeparately, for the caviar ſticks like glue to the teeth, and the bark, although it ſhould be chewed ever ſo long by itſelf, they are hardly ever able to ſwallow down alone. There is ſtill 252 a fourth method which both the *Kamtſchadales* and *Koreki* uſe 171 in preparing their caviar; having covered the bottom of a pit with graſs, they throw the freſh caviar into it, and leave it there to grow ſour: the *Koreki* tie their's in bags and leave it to ſour; this is eſteemed their moſt delicate diſh.

252 There is a third ſort of diet, called by the *Kamtſchadales* 262 *tchupriki*, which is prepared in this manner: in their huts over the fire-place they make a bridge of ſtakes, upon which they lay a heap of fiſh, which remains there 'till the hut becomes as warm as a bagnio; if there was no great thickneſs of fiſh one fire would ſerve to dreſs it; but ſometimes they are obliged to make two, three, or more fires. Fiſh dreſſed in this manner is half roaſted, half ſmoaked, and has a very agreeable taſte, and may be reckoned the beſt of all the *Kamtſchatka* cookery; for the whole juice and fat is prepared with a gradual heat, and kept in by the skin, in which it lies as in a bag, and when ready may be eaſily ſeparated from the fiſh; as ſoon as it is thus dreſſed, they take out the guts, and ſpread the body upon a mat to dry; this they afterwards break ſmall and put into bags, carrying it along with them for proviſion; and when dried eat it like the *yokola*.

252 The *Kamtſchadales* have a diſh, which they eſteem very 262 much, called *huigul:* it is fiſh laid to grow ſour in pits; and 171 though the ſmell of it is intollerable, yet the *Kamtſchadales* eſteem it a perfume. This fiſh ſometimes rots ſo much in the pits that they cannot take it out without ladles; however in that caſe they uſe it for feeding their dogs.

Mr. *Steller* ſays, that the ſummer *Samojeds* likewiſe ſour their fiſh; but that the earth being frozen preſerves it much better;

1: Krasheninnikov N-5 (1736-40) 1764 Kamchadal

better; the *Jakutſki* alſo dig deep pits, in which they lay their fiſh, ſprinkling it with wood aſhes, and cover it with leaves at top, and over all put a layer of earth: this method is better than any of the former. The *Tunguſi* and Coſſacks of *Ochotſka* preſerve their fiſh in the ſame manner, with this difference only, that inſtead of wood aſhes, they uſe the aſhes of burnt ſea weed. They boil their freſh fiſh in troughs, take it out with boards, and letting it cool, eat it with a ſoup made of the ſweet graſs.

As for the fleſh of land and ſea animals, they boil it in their troughs, with ſeveral different herbs and roots; the broth they drink out of ladles and bowls, and the meat they take out upon boards, and eat in their hands. The whale and ſea horſe fat they alſo boil with roots.

There is a principal diſh at all their feaſts and entertainments, called *ſelaga*, which they make by pounding all ſorts of different roots and berries, with the addition of caviar, and whale and ſeals' fat.

Before the conqueſt they ſeldom uſed any thing for drink but water: but when they made merry they drank water which had ſtood ſome time upon muſhroons; but of this hereafter. At preſent they drink ſpirits as faſt as the *Ruſſians*: after dinner they drink water; and every one, when he goes to bed at night, ſets a veſſel of water by him, to which he puts ſnow or ice to keep it cold; and always drinks it up before morning. In the winter time they amuſe themſelves frequently by throwing handfuls of ſnow into their mouths; and the bridegrooms who work with the fathers of their future brides find it their hardeſt task to provide ſnow for their family in the ſummer time, for they muſt bring it from the higheſt hills be the weather what it will, otherwiſe they would ſo diſoblige as never to be forgiven.

CHAPTER VIII

POTTERY

METHODS OF COOKING FOOD OF THE ANCIENT KAMCHADAL

114 252 323 415

At present the Kamchadal do not make clay pots. Until recently the opinion was widespread that they were not familiar with pottery, even in former times. Steller[1] and Krasheninnikoff,[2] in speaking of the ancient Kamchadal method of cooking food, mention only boiling in wooden troughs by means of red-hot stones, and there is nowhere in the writings of these authors a reference to clay vessels. Schrenk[3] considers the absence of pottery among the Kamchadal as proved. He contends also that pottery was unknown to any of the so-called Palæ-Asiatic peoples, with the exception of the Eskimo, whom he classes among them.

We wish to clear up the contradiction between the statements of some travelers, that the old Kamchadal cooked food in wooden troughs by means of red-hot stones and our archæological finds of clay vessels.

Both means of cooking food, by boiling it in wooden troughs and in clay pots, were used. Pottery vessels were used in the permanent winter dwellings, while wooden troughs were used when traveling in winter or moving to fishing places in summer. Clay pots, being light breakable vessels, were not carried along, either by dog-teams or in canoes.

We must admit that Krasheninnikoff and Steller had no chance to observe cooking in clay pots, or to see the Kamchadal pottery, although that may appear improbable, when considering their long stay in Kamchatka and their ample and interesting description of the life of the Kamchadal in all other respects. As to the cooking in wooden troughs, both Krasheninnikoff (I, p. 362; II, pp. 38, 45, 46 and 74) and Steller (p. 322 and App., p. 36) describe in detail how fish and meat of land and sea animals were cooked with edible roots and other vegetables.

R. Torii says that the Sakhalin Ainos made clay pots and at the same time used dug-out trunks for boiling meat and fish in water heated by red-hot stones. He relates the same concerning the Kurilian Ainos. While moving for fishing and hunting purposes from one island to another and not being able to carry with them breakable pottery, they cooked their meals by means of hot stones put in wooden troughs filled with water.[4]

[1] G. W. Steller, *Beschreibung von dem Lande Kamtschatka*, Frankfurt und Leipzig, 1774.

[2] S. P. Krasheninnikoff, *Description of the Land Kamchatka*, vols. I–II, 1819, St. Petersburg (in Russian).

[3] Leopold von Schrenk, *Reisen und Forschungen im Amur-Lande*, Band II, St. Petersburg, 1867, p. 139.

[4] See R. Torii, *Étude Archéologiques et Éthnologiques: Les Aino des Iles Kouriles*, Journal College of Science Imperial University of Tokyo, vol. XLII, Tokyo, 1919–1921 p. 194.

The method of boiling water by means of red-hot stones is known among many peoples—the Eskimo, Polynesians, New Zealanders and others. The Kamchadal of central Kamchatka, says Bogoras (*The Chukchee*, p. 194), even now extract fish-oil by trying out the fish in a dug-out with heated stones. The same was told by Dittmar of the Kamchadal of the village Khuchi on the Kamchatka River (Carl von Dittmar, *Reisen und Aufenthalt in Kamtschatka in den Jahren 1851–1855*, p. 326, St. Petersburg, 1890, Part I). In the work of Dr. Aurel Krause (*Die Tlinkit Indianer, Ergebnisse einer Reise nach der Nordwestküste von Amerika und der Beringstrasse*, Jena, 1885, p. 178) there is an illustration showing how the Tlinkit get fish-oil from the salmon *Thaleichthys pacificus* by boiling it in a dug-out heated with stones. In northern European Russia and Siberia beer is prepared by the same method (see L. S. Berg, *The Discovery of Kamchatka and Bering's Expeditions*, Leningrad and Moscow, 1934, p. 12, in Russian).

6:Antropova E-4 (no date) 1964 RY3 Kamchadal RY3

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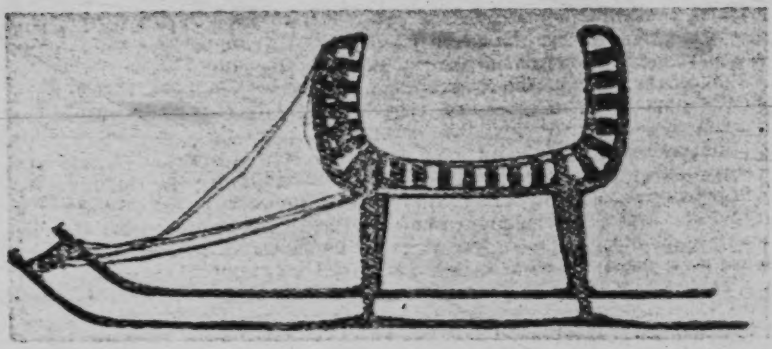

18th-century dogsled.

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handle. Later the horn was replaced by an iron tip. Gathering plants was women's work. Fishing and hunting were men's occupations, but the preserving of fish was in the woman's domain, as were the spinning of thread for the nets from nettle, the weaving of mats, and sewing of clothes. Krasheninnikov reports that preparing food, tending the dogs and all carpentry work were done by men.

The Russians found among the Itel'mens a highly developed neolithic technology. "The former Kamchatka metals, almost until the coming of the Russians, were bone and stones. They were used in the making of axes, knives, spears, arrows, lancets and needles," Krasheninnikov writes about the Itel'mens. Rock crystal was also widely used for knives and tips. Fire was made with a wooden drill. Food, mainly fish and meat, was cooked even in the early 18th century in wooden troughs, into which red-hot stones were thrown.

The only domesticated animal of the Itel'mens was the dog. Later, harness dog-breeding of the so-called Eastern Siberian type developed in Kamchatka. However, until the middle of the 19th century, the Itel'mens used their ancient sled with two pairs of arched staves and a saddle-like seat. At the time of Krasheninnikov's visit, the Itel'mens had gliding skis, but used mostly woven snowshoes. River navigation was by bat—narrow boats, hollowed out of whole poplar trunks. For stability and greater carrying capacity, two of these boats were sometimes tied together and covered to make a platform. Krasheninnikov reports that it took the Itel'mens three years to make a bat with a stone adze.

The Russians called the Itel'men villages in the 18th century ostrozhkas, or "little forts." They were situated along river banks and consisted of winter and summer dwellings. The winter dwelling was a semiunderground yurt, as it was then called by the Russians, with an entrance through the smoke-opening in the roof. The dwelling also had a side exit, but this was used only by women and children. The summer dwelling of the individual family was the so-called balagan—a pyramidal, grass-covered tent set on high platforms resting on piles. The ancient dress of the Itel'mens resembled Koryak and Chukchi dress.

Such, in its general features, was the material culture of the Itel'mens in the beginning of the 18th century. Analogous to the low level of material production were the primitive forms of social relations.

7:Lesseps T-3 (1787-88)1790 Kamchadal

THEIR PROVISIONS ARE PREPARED NEARLY IN
252 the following manner; it will appear, from
262 the recital, that they cannot be accuſed of much delicacy. They are particularly careful to waſte no part of the fiſh. As ſoon as it is caught they tear out the gills, which they immediately ſuck with extreme gratification. By another refinement of ſenſuality or gluttony, they cut off alſo at the ſame time ſome ſlices of the fiſh, which they devour with equal avidity, covered as they are with clots of blood. The fiſh is then gutted, and the entrails reſerved for their dogs. The reſt is prepared and dried; when they eat it either boiled, roaſted, or broiled, but moſt commonly raw.

The food which the epicures eſteem moſt, and which appeared to me to be ſingularly diſguſting, is a ſpecies of ſalmon, called *tchaouitcha*. As ſoon as it is caught, they bury it in a hole; and in this kind of larder they leave it till it has had time to ſour, or, properly

7:Lesseps T-3 (1787-88)1790 Kamchadal

252 properly ſpeaking, become perfectly pu-
262 trified. It is only in this ſtate of corruption that it attains the flavour moſt pleaſing to the delicate palates of theſe people. In my opinion the infectious odour that exhales from this fiſh, would ſuffice to repulſe the moſt hungry being; and yet a Kamtſchadale feeds voluptuouſly upon this rotten fleſh. How fortunate does he conſider himſelf when the head falls to his lot! this is deemed the moſt delicious morſel, and is commonly diſtributed into many parts. I frequently wiſhed to overcome my averſion, and taſte this ſo highly valued food; but my reſolution was unequal to it; and I was not only unable to taſte it, but even to bring it near my mouth; every time I attempted, the fetid exhalation which it emitted gave me a nauſea, and diſguſted me inſuperably.

262 The moſt common fiſh in Kamtſchatka
372 are trouts, and ſalmon of different ſpecies;

ſea

7:Lesseps T-3 (1787-88)1790 Kamchadal

262 sea wolves are also eaten; the fat of this fish
372 is very wholesome, and serves them beside for lamp oil.

136 Among the vegetables which are made
252 use of by the Kamtschadales, the principal
262 are *sarana* root, wild garlic, *slatkaïa-trava*, or sweet herb, and other plants and fruits nearly similar to what are found in Russia.

The *sarana* is known to botanists*. Its shape, its size, and its colour have been described at large in the third voyage of captain Cook. Its farinaceous root serves instead of bread†. It is dried before it is

* By the name of *lilium flore atro rubente*.

† The Cossacs use rye also, which makes a sort of black bread, like that of the Russian peasants. Government allows them a certain quantity of rye flour, but it is insufficient, and they are obliged to procure more at their own expence. Some of them lay it up in store in order to profit by its future sale.

used;

7:Lesseps T-3 (1787-88)1790 Kamchadal

136 uſed; but it is wholeſome and nouriſhing
252 in whatever mode it may be prepared.
262
273

From the wild garlic* they make a harſh and fermented beverage, which has a very unpleaſant taſte; it is alſo uſed in various ſauces; the Kamtſchadales are very fond of it.

The ſlatkaïa-trava, or ſweet herb, is pleaſant enough when it is freſh. This plant† has alſo been minutely deſcribed by the Engliſh. It is highly eſteemed by the natives, particularly the ſpirit diſtilled from it. Soon after it is gathered, they ſlit it in two, and ſcrape out the pith with a muſcle-ſhell: they then dry it for winter, and

* It is called in Kamtſchatka, *tſcheremſcha*. Gmelin denominates it: *allium foliis radicalibus petiolatis, floribus umbellatis*. Vol. 1. p. 49.

† *Spondilium foliolis pinnatifidis*. See Linn. The juice of the rind of this plant is ſo acrid, that it is impoſſible to touch it without bliſtering the hand. In gathering it they take care to wear gloves.

when

7:Lesseps T-3 (1787-88)1790 Kamchadal

252 when they uſe it in their ragouts, it is pre-
439 viouſly boiled. Brandy is alſo diſtilled from
273 this ſweet herb, which, as I obſerved before, is ſold on account of government: for this purpoſe the plant is purchaſed of the Kamtſchadales*.

162 There are three ſorts of inhabitants, the
563 natives or Kamtſchadales, the Ruſſians and Coſſacs, and the deſcendants from intermarriages.

The indigenes, that is, thoſe whoſe blood is unmixed, are few in number; the ſmall pox has carried off three fourths of them, and the few that are left are diſperſed through the different oſtrogs of the peninſula; in Bolcheretſk it would be difficult to find more than one or two.

* This brandy intoxicates much quicker than French brandy; whoever drinks it, is ſure to be extremely agitated during the night, and to feel the next day as melancholy and reſtleſs as if he had committed ſome crime.

The

18: Yarmolinsky--7 L-4 (no date) 1947 Kamchadal
252, 262

" A native dish regarded as a dainty, which is made by pounding fat with several ingredients, including berries and the roots of sarana [Polygonum viviparum]. 'The tolkusha prepared with reindeer fat tastes well,' writes Jochelson in one of the unpublished studies mentioned above, 'but one cannot say the same of tolkusha with seal's fat.'"

22: Guillemard T-2 (1882) 1886 Kamchadal

136 yellow foxes (*Vulpes fulvus*), who sat inspecting us curiously as we floated down, and were none the worse for their temerity. According to our hunters, these animals are not nearly as common now as formerly, though from what reason it is difficult to say, as the skin is of no great value, and they are in consequence not much hunted. Ducks of the kinds I have already mentioned were in great numbers, and the Merganser (*M. serrator*) also seemed fairly abundant. It was of course impossible for us to reach Werchni Kamschatka before nightfall, so, having made about forty versts, we landed on one of the broad pebbly beaches, where the spring freshets had already collected abundant firewood
252 for us, and pitched our camp. The Sherowmy men had a simple but effective plan of cooking duck that I had never seen before. The bird is plucked with care, so as to leave the skin unbroken, and is not drawn. A stick is forced down the throat, and the other end stuck into the ground close to the fire. The effect produced when a party of a dozen are thus cooking their suppers is not a little absurd: it is as if the camp-fire had burst into a perfect girandole of naked ducks, who fly quacking from it in open-mouthed alarm.

We had hitherto been favoured with far finer weather than that usually to be expected during late autumn, but the next day dawned threateningly, and before long fulfilled its promise to the utmost. A pall of thick leaden clouds with ragged edges hung over us, and a steady downpour that showed every prospect of
161 continuance soon commenced. Hour after hour we paddled on
721 through the driving rain, and it was not until after mid-day that
361 we stepped ashore, wet and cold, at the hamlet of Werchni Kamschatka. Like most of these places, it is composed of a bare dozen
R of huts, with a total population of less than fifty souls; but it
177 enjoys the distinction of being the only settlement on the Kams-
. 72 chatka River that is marked on the English chart of the country. In bygone days it may have merited it, for it was one of the first *ostrogs* established by the Russians after their conquest of the

22: Guillemard T-2 (1882) 1886 Kamchadal

136 Since leaving Kluchi we had spent a good deal of time in trying to obtain a specimen of Pallas's Northern Sea Eagle (*Thalassaëtus pelagicus*)—a species which, at this part of the river, is by no means uncommon. It is a magnificent bird, and is especially conspicuous from the large white shoulder-patches and tail, but owing to its shyness it is extremely difficult to approach. We were, unfortunately, not provided with a rook rifle, and the few long shots we obtained were unsuccessful. Once only did we get a bird fairly within shot, and the two barrels of No. 2 that he received at a distance of thirty yards seemed to have no effect whatever upon him. This eagle appears to be chiefly confined to the lower part of the Kamschatka River, for we did not meet with it before reaching the neighbourhood of the great volcanoes.

226 252 262 The natives are prevented by law from barring the river in the lower part of its course, and here the salmon are taken chiefly with seine and drift nets. The V-shaped curral-trap of stakes, with baskets on the lobster-pot principle, is also frequently seen; a system which, as I have already stated, is used to bar the river right across at Melcova. The fat of the Kisuchi salmon is regarded as a great delicacy, and is prepared in considerable quantities at this season. A canoe is filled with water, and a number of the fish placed in it. Into this large red-hot stones are dropped, thus boiling the contents, which are meanwhile constantly stirred. The fat is then removed as it rises to the surface.

133 224 The low and muddy shores of the river in this part of its course are in many places intersected with small creeks, at the mouths of which two tall poles may often be noticed. These are used for taking ducks at flight time, by a plan which is not uncommon in other parts of the world. A fine net is hung between the two poles, which the hunter lets fall as the birds fly against it. By this means we were told that large numbers are often caught.

000 We woke on the morning of September 15th to a most miser-